Summary of Clean Fuel / Clean Technology Options for School Buses

In addition to reducing unnecessary idling, there are variety of ways, through the use of innovative technology, to reduce pollution from school buses. The following chart summaries the costs and benefits of a some of these techniques.

Clean Fuel / Clean Technology Options	Type of Engine	Percent Reduction in Emissions of Particulate Matter (PM)	Percent Reduction in Emissions of Hydrocarbons (HC)	Approximate Cost of Technology
Ultra-Low Sulfur Diesel (ULSD)	New or Used Diesel Engine	about 5 to 9% enables the PM filter technology to work, improves performance of oxidation catalysts	N/A	8 to 25 cents per gallon more than regular diesel now In June 2006, when ULSD will be required nationwide, cost differential will be much less
Particulate Matter Filter	New or Used Diesel Engine – 1995 or newer models	60 to 90%	60 to 90%	$5,000 to $10,000
Oxidation Catalyst	New or Used Diesel Engine	20 to 30%	50%	$800 to $1,500 can be used with regular diesel (works better with ULSD)
Oxidation Catalyst plus Crankcase Filter	New or Used Diesel Engine	33%	26%	$1,200 to $1,700 can be used with regular diesel (works better with ULSD)
Oxidation Catalyst plus Fuel Borne Catalyst	New or Used Diesel Engine	40%	50%	$1,200 to $1,700 can be used with regular diesel (works better with ULSD)
Biodiesel Fuel* B-20: 20% biodiesel, 80% regular diesel B100: 100% biodiesel	New or Used Diesel Engine	 B20 - 10% B100 - 40%	20 to 65 %	B20 – 20 to 40 cents per gallon more than regular diesel B100 – $1.00 cents to $2.00 per gallon more than regular diesel (B-100 may not be an option for cold climates)
Emulsified Diesel Fuel**	New or Used Diesel Engine	20 to 50%	Increases HC emissions	20 cents per gallon more than regular diesel fuel

*Biodiesel increases emissions of nitrogen oxides slightly (B20 blend +2%, B100 fuel +10%)

**Emulsified diesel decreases emissions of nitrogen oxides by 5 to 30%.